

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-46. (canceled)

47. (original) A method for assessing mutations in cytomegalovirus (CMV), the method comprising:

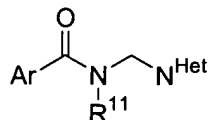
(a) collecting CMV and/or at least one CMV infected cell from a patient infected with CMV by contacting the blood or a tissue of the patient with a compound that binds CMV and/or a CMV infected cell, whereby CMV or at least one CMV infected cell is bound from the blood or tissue; and

(b) detecting the presence and/or absence of a mutation in CMV obtained from the CMV or the at least one CMV infected cell collected in step (a).

48. (original) The method of claim 47, wherein contacting comprises withdrawing blood containing CMV from the patient and flowing the blood into or through a collector that comprises the compound, whereby CMV in the blood is captured by the compound of the collector.

49. (original) The method of claim 48, wherein the compound is a ligand for CMV US28.

50. (original) The method of claim 49, wherein the compound has the formula:



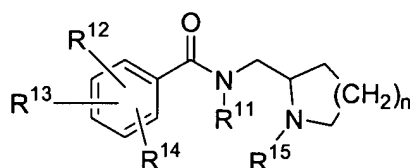
or is a pharmaceutically acceptable salt thereof; wherein

Ar is a substituted aryl group;

R^{11} is a member selected from the group consisting of H and substituted or unsubstituted (C₁-C₄)alkyl; and

N^{Het} is a substituted or unsubstituted 4-, 5-, 6-, or 7-membered nitrogen heterocycle.

51. (original) The method of claim 49, wherein the compound has the formula:



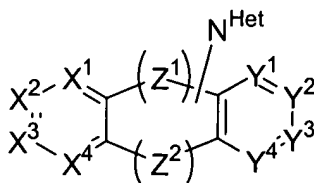
or is a pharmaceutically acceptable salt thereof; and wherein

the subscript n is an integer of from 1 to 3;

R¹¹ and R¹⁵ are members independently selected from the group consisting of H and substituted or unsubstituted (C₁-C₄)alkyl;

R¹², R¹³ and R¹⁴ are each members independently selected from the group consisting of H, hydroxy, halogen, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, nitro, cyano, (C₁-C₄)acyl, amino, (C₁-C₄)alkylamino and di(C₁-C₄)alkylamino; with the proviso that at least one of R¹², R¹³ and R¹⁴ is other than H.

52. (original) The method of claim 49, wherein the compound has the formula:



or is a pharmaceutically acceptable salt thereof; and wherein

X¹, X², X³ and X⁴ are each independently members selected from the group consisting of N and C-R₁, wherein R₁ is a member selected from the group consisting of

H, halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino;

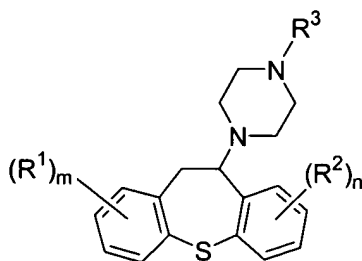
Y1, Y2, Y3 and Y4 are each independently members selected from the group consisting of N and C-R2, wherein R2 is a member selected from the group consisting of H, halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino;

Z1 is a divalent moiety selected from the group consisting of (C1-C3)alkylene;

Z2 is a divalent moiety selected from the group consisting of -O-, -S- and -N(R3)- wherein R3 is a member selected from the group consisting of H, halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino; and

NHet is a substituted or unsubstituted 4-, 5-, 6-, or 7-membered nitrogen heterocycle.

53. (original) The method of claim 49, wherein the compound has the formula:



or is a pharmaceutically acceptable salt thereof; and wherein

the subscripts m and n are independently integers of from 0 to 3;

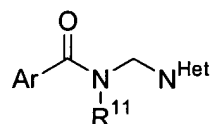
R¹ and R² are substituents independently selected from the group consisting of halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)alkylthio, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino; and

R^3 is a substituent selected from the group consisting of (C₁-C₄)alkyl, (C₁-C₄)haloalkyl and (C₁-C₄)acyl.

54. (original) The method of claim 47, wherein collecting comprises placing an implant device that contains the compound in or on the patient such that the implant device is in contact with the blood of the patient, whereby CMV or the at least one CMV infected cell in the blood is captured by the compound of the implant device.

55. (original) The method of claim 54, wherein the compound is a ligand for CMV US28.

56. (original) The method of claim 55, wherein the compound has the formula:



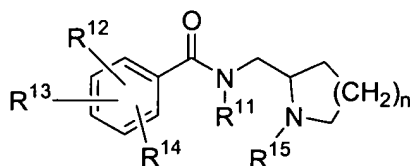
or is a pharmaceutically acceptable salt thereof; wherein

Ar is a substituted aryl group;

R^{11} is a member selected from the group consisting of H and substituted or unsubstituted (C₁-C₄)alkyl; and

N^{Het} is a substituted or unsubstituted 4-, 5-, 6-, or 7-membered nitrogen heterocycle.

57. (original) The method of claim 55, wherein the compound has the formula:



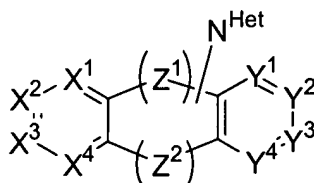
or is a pharmaceutically acceptable salt thereof; and wherein

the subscript n is an integer of from 1 to 3;

R11 and R15 are members independently selected from the group consisting of H and substituted or unsubstituted (C1-C4)alkyl;

R12, R13 and R14 are each members independently selected from the group consisting of H, hydroxy, halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino and di(C1-C4)alkylamino; with the proviso that at least one of R12, R13 and R14 is other than H.

58. (original) The method of claim 55, wherein the compound has the formula:



or is a pharmaceutically acceptable salt thereof; and wherein

X1, X2, X3 and X4 are each independently members selected from the group consisting of N and C-R1, wherein R1 is a member selected from the group consisting of H, halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino;

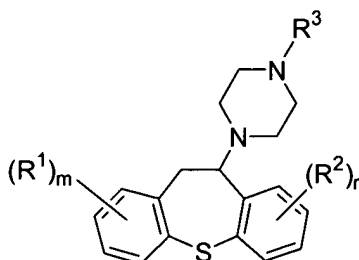
Y1, Y2, Y3 and Y4 are each independently members selected from the group consisting of N and C-R2, wherein R2 is a member selected from the group consisting of H, halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino;

Z1 is a divalent moiety selected from the group consisting of (C1-C3)alkylene;

Z2 is a divalent moiety selected from the group consisting of -O-, -S- and -N(R3)- wherein R3 is a member selected from the group consisting of H, halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino; and

NHet is a substituted or unsubstituted 4-, 5-, 6-, or 7-membered nitrogen heterocycle.

59. (original) The method of claim 55, wherein the compound has the formula:



or is a pharmaceutically acceptable salt thereof; and wherein

the subscripts m and n are independently integers of from 0 to 3;

R¹ and R² are substituents independently selected from the group consisting of halogen, (C1-C4)alkyl, (C1-C4)alkoxy, (C1-C4)alkylthio, (C1-C4)haloalkyl, (C1-C4)haloalkoxy, nitro, cyano, (C1-C4)acyl, amino, (C1-C4)alkylamino, and di(C1-C4)alkylamino; and

R³ is a substituent selected from the group consisting of (C1-C4)alkyl, (C1-C4)haloalkyl and (C1-C4)acyl.

60. (original) The method of claim 47, wherein if a mutation is detected, the method further comprises determining whether the mutation confers resistance to a pharmaceutical agent.

61. (original) The method of claim 60, wherein the method further comprises administering the pharmaceutical compound to the patient prior to the collection step.

62. (original) The method of claim 47, wherein collecting comprises placing a transdermal patch containing the compound on the skin of the patient.